



**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No: Q64322

Shiro IWATANI, et al.

Appln. No.: 09/831,040

Group Art Unit: 2834

Confirmation No.: 8209

Examiner: Pedro J. Cuevas

Filed: May 04, 2001

For: INTEGRATED CIRCUIT CONTROLLER FOR VEHICLE A.C. GENERATOR (AS AMENDED)

**SUBMISSION OF APPELLANT'S BRIEF ON APPEAL**

**MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Submitted herewith please find an original and two copies of Appellant's Brief on Appeal. A check for the statutory fee of \$320.00 is attached. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

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WASHINGTON OFFICE



23373

PATENT TRADEMARK OFFICE

Date: July 25, 2003

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**APPELLANTS' BRIEF ON APPEAL UNDER 37 C.F.R. § 1.192**

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 1.192, Appellant submits the following:

**I. REAL PARTY IN INTEREST**

The real party in interest is MITSUBISHI DENKI KABUSHIKI KAISHA, by virtue of an assignment executed by Shiro Iwatani, Hirofumi Watanabe, and Tatsuki Kouwa (Appellants, hereafter) on May 7 and May 8, 2001, respectively, and recorded by the Assignment Branch of the U.S. Patent and Trademark Office on August 7, 2001, at Reel 12094, Frame 0979.

**II. RELATED APPEALS AND INTERFERENCES**

To the knowledge and belief of Appellants, the Assignee, and the undersigned, there are no other appeals or interferences before the Board of Appeals and Interferences that will directly affect or be affected by the Board's decision in the instant Appeal.

APPELLANTS' BRIEF ON APPEAL  
UNDER 37 C.F.R. § 1.192  
U.S. Appln. No.: 09/831,040

**III. STATUS OF CLAIMS**

Claims 1-4 are all the claims pending in the application. Claims 1-4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over DeBiasi et al. (US 5,481,176) in view of Morris (US 5,859,581).

The appealed claims are claims 1-4.

**IV. STATUS OF AMENDMENTS**

All amendments have been entered.

**IV. SUMMARY OF THE INVENTION**

The present invention relates to an integrated circuit controller for a vehicle A.C. generator. FIG. 2 shows an integrated circuit controller according to an illustrative embodiment of the present invention, including: an A.C. generator 1 having a field coil 102; a voltage regulator 3a for regulating a current, which is caused to flow through the field coil 102; a field current restricting unit 3b for detecting a current which is caused to flow through the field coil by means of a field current detecting resistor 312 to restrict the current to a predetermined value in correspondence to the detection result; a failure alarm 3c; and batteries 4 each of which is charged by an output of the A.C. generator 1. See the present specification at page 9, lines 3-12 and page 10, line 24-page 11, line 23.

APPELLANTS' BRIEF ON APPEAL  
UNDER 37 C.F.R. § 1.192  
U.S. Appln. No.: 09/831,040

**VI. ISSUES**

The sole issue on appeal is whether claims 1, 2, 3, and 4 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over DeBiasi et al. in view of Morris.

**VII. GROUPING OF CLAIMS**

For the purposes of the present appeal, the rejected claims do not stand or fall together. Specifically, the rejected claims are divided into the following separately patentable groups.

Group 1: Claims 1, 2, and 3

Group 2: Claim 4

The Arguments section below provides arguments in support of the separate patentability of the groups, beginning on the following pages: Group 2, page 4.

**VIII. ARGUMENTS**

Appellants respectfully submit that the claims are not obvious over Kifuku et al. in view of Setaka et al.

Group 1

Group 1 includes claims 1, 2, and 3. Claim 1 is independent and claims 2 and 3 depend from claim 1.

**Group 1, Argument 1: DeBiasi and Morris do not teach or suggest a field current detecting resistor that is a thick film printed resistor.**

APPELLANTS' BRIEF ON APPEAL  
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Independent claim 1 of the present invention requires a field current detecting resistor that is a thick film printed resistor. The Examiner admits that DeBiasi et al. do not disclose this feature of the claim, but asserts that Morris makes up for this deficiency of DeBiasi et al. See page 3 of the November 25, 2002 Office Action. Appellants respectfully disagree, as set forth below.

Morris relates to a thick film resistor assembly for a fan controller. The Examiner asserts that Morris teaches "the construction of a thick film resistor assembly and insulating board for a fan controller for the purpose of providing an improved resistor assembly incorporating an anodizable metal substrate having an anodized insulating coating and one or more thick film printed resistors screen printed directly on the insulating coating." Page 3 of the November 25, 2002 Office Action. However, Morris does not teach or suggest a field current detecting resistor that is a thick film printed resistor. Instead, Morris teaches a thick film resistor assembly for a fan controller. Morris does not explicitly disclose a field current detecting resistor of any kind, and Morris's general teachings of thick film resistors do not teach or suggest the specific claim limitation of claim 1 of a field current detecting resistor that is a thick film printed resistor. Thus, the combination of DeBiasi et al. and Morris does not teach or suggest all of the limitations of independent claim 1.

Therefore, Appellants respectfully request the reversal of the rejection of the claims of Group 1, for at least the aforementioned reasons.

Group 2

Group 2 includes claim 4, which is dependent upon claim 1.

APPELLANTS' BRIEF ON APPEAL  
UNDER 37 C.F.R. § 1.192  
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**Group 2, Argument 1: DeBiasi and Morris fail to teach or suggest a failure alarm means for detecting a failure of the A.C. generator to give an alarm, wherein the failure alarm means is an integrated circuit.**

Appellants submit that the applied references do not teach or suggest the integrated circuit failure alarm means for detecting a failure of the A.C. generator to give an alarm. Although DeBiasi et al. disclose a charging system warning lamp 25, the warning lamp 25 is illuminated when the engine controller 18 learns from the voltage regulator 16 via load indicator circuit 28 that a fault has occurred in the charging system. See col. 3, lines 12-18 of DeBiasi et al. In other words, the warning lamp 25 simply indicates a fault in the charging system, but the failure alarm means of claim 4 is for detecting a failure of the A.C. generator to give an alarm.

Furthermore, the warning lamp 25 of the reference is not taught or suggested as being an integrated circuit, as required by claim 4. Thus, the warning lamp 25 of DeBiasi et al. does not correspond to the failure alarm means of claim 4.

Appellants respectfully request the reversal of the rejection of the claim of Group 2, for at least the reasons noted with respect to claim 4 and the reasons noted above with respect to Group 1.

#### **IX. CONCLUSION**

Appellant respectfully requests the members of the Board to reverse the rejection of all appealed claims and to find each of the claims allowable as defining subject matter which is patentable over the applied reference.

APPELLANTS' BRIEF ON APPEAL  
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APPELLANTS' BRIEF ON APPEAL  
UNDER 37 C.F.R. § 1.192  
U.S. Appln. No.: 09/831,040

**APPENDIX**

**CLAIMS 1-4 ON APPEAL:**

1. A controller for an A.C. generator for a vehicle, comprising:  
batteries each of which is charged with electric charges on the basis of an output of  
generation of electrical energy of an A.C. generator having a field coil;  
voltage regulating means for regulating a current, which is caused to flow through said  
field coil, on the basis of the detection result of a voltage developed across the terminals of said  
batteries due to an output voltage of said A.C. generator into a fixed output value of the  
generation of electrical energy of said A.C. generator; and  
field current restricting means for detecting a current which is caused to flow through  
said field coil by means of a field current detecting resistor to restrict the current to a  
predetermined value in correspondence to the detection result,  
wherein said field current detecting resistor is a thick film printed resistor, and  
wherein each of said means other than said thick film printed resistor is an electronic  
circuit and the electronic circuits are configured in the form of an integrated circuit.
2. A controller for an A.C. generator for a vehicle according to claim 1, wherein said  
thick film printed resistor and said integrated circuits are formed on an insulating board.
3. A controller for an A.C. generator for a vehicle according to claim 1, wherein a  
resistor body constituting said thick film printed resistor is trimmed to adjust the resistance value  
thereof and to adjust the field current detection value.



JUL 25 2003

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**Group 2, Argument 1: DeBiasi and Morris fail to teach or suggest a failure alarm means for detecting a failure of the A.C. generator to give an alarm, wherein the failure alarm means is an integrated circuit.**

Appellants submit that the applied references do not teach or suggest the integrated circuit failure alarm means for detecting a failure of the A.C. generator to give an alarm. Although DeBiasi et al. disclose a charging system warning lamp 25, the warning lamp 25 is illuminated when the engine controller 18 learns from the voltage regulator 16 via load indicator circuit 28 that a fault has occurred in the charging system. See col. 3, lines 12-18 of DeBiasi et al. In other words, the warning lamp 25 simply indicates a fault in the charging system, but the failure alarm means of claim 4 is for detecting a failure of the A.C. generator to give an alarm.

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voltage regulating means for regulating a current, which is caused to flow through said field coil, on the basis of the detection result of a voltage developed across the terminals of said batteries due to an output voltage of said A.C. generator into a fixed output value of the generation of electrical energy of said A.C. generator; and

field current restricting means for detecting a current which is caused to flow through said field coil by means of a field current detecting resistor to restrict the current to a predetermined value in correspondence to the detection result,

wherein said field current detecting resistor is a thick film printed resistor, and

wherein each of said means other than said thick film printed resistor is an electronic circuit and the electronic circuits are configured in the form of an integrated circuit.

2. A controller for an A.C. generator for a vehicle according to claim 1, wherein said thick film printed resistor and said integrated circuits are formed on an insulating board.

3. A controller for an A.C. generator for a vehicle according to claim 1, wherein a resistor body constituting said thick film printed resistor is trimmed to adjust the resistance value thereof and to adjust the field current detection value.

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4. A controller for an A.C. generator for a vehicle according to claim 1, further comprising a failure alarm means for detecting a failure of said A.C. generator to give an alarm, wherein the failure alarm means is an integrated circuit.